

Date: Thu, 2 Sep 93 04:30:17 PDT
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V93 #34
To: Ham-Ant

Ham-Ant Digest Thu, 2 Sep 93 Volume 93 : Issue 34

Today's Topics:

 10 METER ANTENNA
 antenna issue of 73 mag. small 40m.
 Antennas, Q and bandwidth
 anyone know the Daiwa CNW 518 tuner?
 How to use dip oscillator on an antenna?
 T2FD Antenna
 VHF Quad Info needed. HELP!

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>

Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>

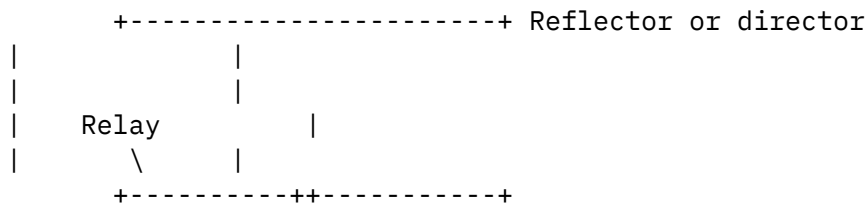
Problems you can't solve otherwise to brian@ucsd.edu.

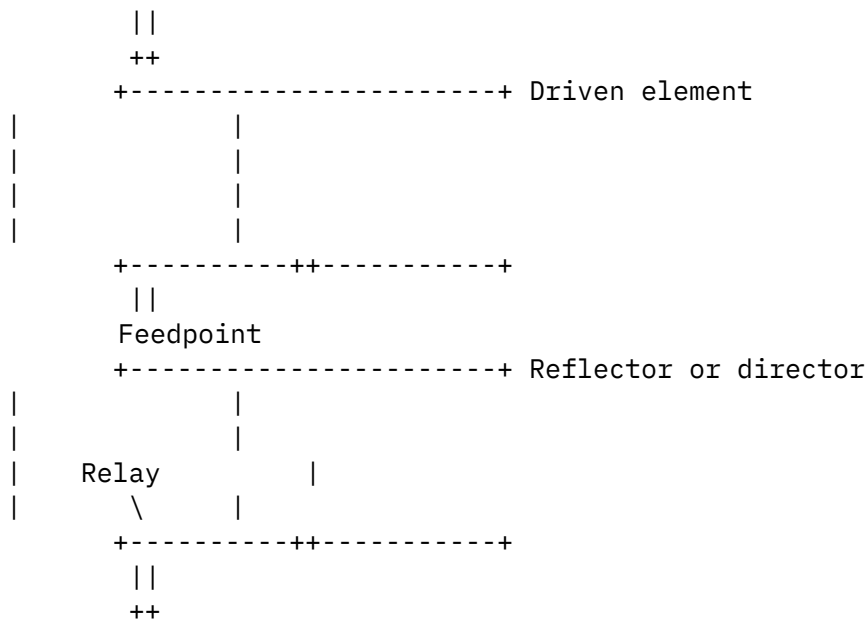
Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 1 Sep 1993 01:22:24 GMT
From: pa.dec.com!nntpd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: 10 METER ANTENNA
To: ham-ant@ucsd.edu

A reversible quad is something else to consider if you have the attic
space. 3 elements is probably feasible and direction is switched in a
similar manner.





Where the relays switch in or out some twinlead or something similar to change the effective length of the element.

73,
Todd
N9MWB

Date: Wed, 1 Sep 1993 14:23:27 GMT
From: pa.dec.com!decabo.abo.dec.com!anarky.enet.dec.com!brewer@decwrl.dec.com
Subject: antenna issue of 73 mag. small 40m.
To: ham-ant@ucsd.edu

Has anyone built the small delta loop for 40m that is described in 73 mag this month? It almost looks too good to be true....

/john

| John Brewer | Internet: brewer@anarky.enet.dec.com |
| wb5oau | Packet | wb5oau@wb2ars |

Date: Thu, 2 Sep 1993 03:29:20 GMT
From: psinntp!isc-newsserver!jdc3538@uunet.uu.net
Subject: Antennas, Q and bandwidth
To: ham-ant@ucsd.edu

Do antennas have a "Q" factor associated with them, like a capacitor, inductor or a tuned circuit? Does this affect the range of frequencies a resonant antenna can be used on? Is it possible to extend the useable frequency range of an antenna by lowering the Q factor (that is, having more resistance in it)?

And where does increasing frequency range by increasing element diameter fit in to all this?

Thanks...Jim
N2VNO

Date: 1 Sep 93 20:52:52 GMT
From: news.service.uci.edu!ucivax!gateway@network.ucsd.edu
Subject: anyone know the Daiwa CNW 518 tuner?
To: ham-ant@ucsd.edu

I have been offered one of these for \$120, and wonder if anyone knows much about them. I understand it is very heavy duty (a plus) and has good metering, with an antenna switch built into it. Anyone with comments? I am used to using a KW Matchbox and a Dentron Super Tuner here (for my QRP work.....)

Clark

.....
Clark Savage Turner, Graduate Student Researcher
Safety Critical Software Group home:
Department of Info. and Computer Science 1514 Verano Place
Irvine, CA. 92717 Irvine, CA. 92715
(714) 856 4049 (714) 856 2131

WA3JPG, QRP #3526, active on HF, VHF and UHF.
ARRL Volunteer Counsel

Date: Wed, 1 Sep 1993 01:22:32 GMT
From: pa.dec.com!nnntp2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: How to use dip oscillator on an antenna?
To: ham-ant@ucsd.edu

fred-mckenzie@ksc.nasa.gov (Fred McKenzie) writes:

>Todd-

>

>I've wrestled with this question, and tried different things. I have
>concluded that nearly any coupling loop you might come up with, will supply
>a reactive component that will change the resonance of the antenna.

>

>The solution is to connect a short circuit across the feedpoint. Couple
>the oscillator's coil directly to the antenna, by laying the coil on the
>wire so the turns are in line with the wire. I do not know the effect of
>leaving the shorted feedline connected, but expect it won't change the
>resonance if it is at the center.

Of course you are correct, but in the little bit of playing around that
I've done, the added reactive component wasn't enough to worry about. But
then again, I've not tried using one above 30 MHz. At 2 meters or
especially at UHF/SHF frequencies, adding a couple loops at the feed point
is likely to have a much greater effect.

I had trouble getting my home made dipper to couple well enough to just the
wire. That was why I tried the couple of turns to make a better inductive
coupling. Perhaps someone who's got a better dipper than mine can try both
techniques and see how much of an actual difference it makes.

73,
Todd
N9MWB

Date: Thu, 2 Sep 1993 03:15:02 GMT
From: sdd.hp.com!spool.mu.edu!howland.reston.ans.net!gatech!news-
feed-1.peachnet.edu!nscf!lakes!jcox@network.ucsd.edu
Subject: T2FD Antenna
To: ham-ant@ucsd.edu

How about the Terminated Tilted Folded Dipole or T2FD? Basically,
this antenna is a folded dipole with a terminating resistor on the leg
opposite the feed point. Barker & Williamson (B&W) markets antennas of a
similar construction, although the dimensions are not the same as the
T2FD design by Countryman. I have done a fair amount of reading on the
antenna, and now have a non-inductive terminating resistor and balun kit
from Dayton. Any users, builders or comments?

73, John

Date: Wed, 1 Sep 1993 01:22:39 GMT
From: pa.dec.com!nntpd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: VHF Quad Info needed. HELP!
To: ham-ant@ucsd.edu

tskloss@zeus.tamu.edu (SKLOSS, TIMOTHY WILLIAM) writes:

>A few weeks ago I passed my first amateur radio exam and am waiting for my
>tech no-code license from the FCC... and waiting.

Congrats, and welcome!

>In the meantime I have been building antennas for my future hobby. Transmitter
>hunts are popular here (at least 2 evenings a month) and I am building a VHF
>quad so I can participate with my new (used) HT. I like to do things right
>the first time and working in a laboratory environment makes me methodical
>and scientific.

>

>I am building the quad as per instructions in the ARRL handbook:

>

> 12 guage insulated copper wire (coarse stranded)
> fiberglass spreader rods (from cheapo arrows at hardware store)
> 1" schedule 40 PVC pipe for spreader mounts and mast

Which handbook and which antenna? I don't recall seeing such an antenna
described in either The ARRL Handbook For Radio Amateurs, or the ARRL
Antenna Book.

>My questions follow:

>

> Why 75 ohm feed line? I want the best tune and match. Working in a
>lab based on RF energy (but funny how nobody here knows anything about RF,
>that's why I'm a HAM!) I have the available parts and equipment to build a
>tuning circuit (RF capacitors and inductors).

Without knowing the specifics, it could either be that it is acting as a
series section transformer if it's cut to a specific length, or that for
an HF quad a slight mismatch isn't going to make a big difference.

> How does someone tune a quad as they are assembling it? Are there
>any precalculated dimensions with guaranteed results using the aforementioned
>hardware?

I don't know about guarantees, but there are some "rules of thumb". From
the ARRL Antenna Book, the lengths in feet of the elements should be:

Driven Element = $1005/f$
 Reflector = $1030/f$ f = Frequency in MHz
 Director = $975/f$

and the elements should be spaced between 0.14 and 0.20 wavelengths apart. This should yield an antenna with a 40-60 ohm impedance. For VHF and above, you may need to increase the element lengths by as much as 2% due to the element diameter starting to become a noticable fraction of a wavelength.

>Basically, I want a decent, well tuned VHF quad for direction finding AND
 >transmitting up to 100 watts PEP. (But actually, 50 watts PEP is OK)

I would take the dimensions from the ARRL Antenna Book's 4 element portable quad (from a design by W1KSC). I have built this antenna and it performs very well. Quads in general are fairly forgiving antennas so they are easy to build. The element lengths and spacings are:

	Length	Distance from Reflector
Reflector	86"	0
Driven Element	81"	16"
1st Director	77"	29"
2nd Director	77"	42"

This makes a nice directional quad with reasonable gain. If you need to "tune it up", simply adjust the length of the driven element a little. There should be plenty of leeway to get a reasonable SWR across the entire 2 meter band.

As an alternative, you could pick up a copy of MININEC (freeware) and model the quad. I've done that and it's quite rewarding.

73 es gl,
 Todd
 N9MWB

End of Ham-Ant Digest V93 #34
